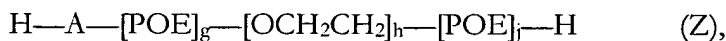
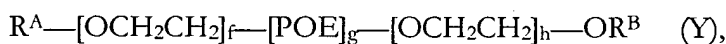
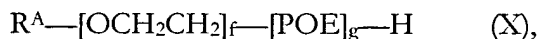


What is claimed is:

1. A micellar pharmaceutical composition for the delivery of a hydrophobic or water-insoluble active agent, comprising the active agent physically entrapped within but not covalently bonded to a drug carrier comprising a block copolymer of formula X, formula Y, or formula Z:



where:

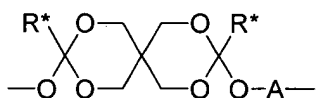
$R^A$  is  $C_1$ - $C_4$  alkyl;

$R^B$  is  $C_1$ - $C_4$  alkyl;

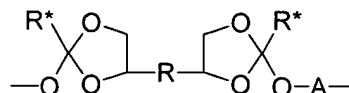
$f$  and  $h$  are independently an integer from 2 to 1000;

$g$  and  $j$  are independently an integer from 2 to 200;

POE is a poly(ortho ester) unit of formula IA or formula IIA:



(IA)



(IIA)

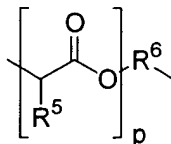
where

$R^*$  is a  $C_1$ - $C_4$  alkyl;

$R$  is a bond,  $-(CH_2)_b-$ , or  $-(CH_2)_b-O-(CH_2)_c-$ ; where  $a$  is an integer of 1 to 10, and  $b$  and  $c$  are independently integers of 1 to 5; and

each  $A$  is independently selected from  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$ , where

$R^1$  is:

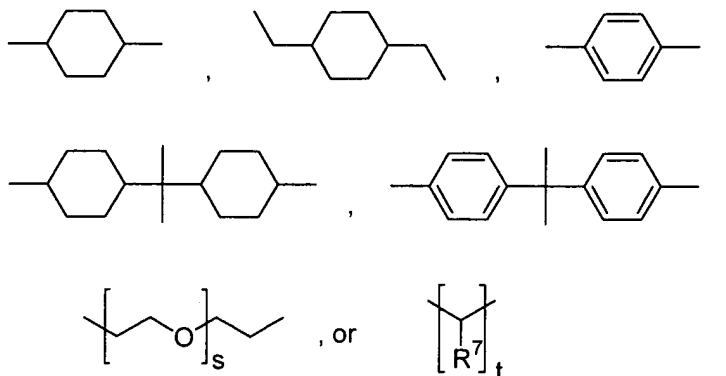


where:

$p$  is an integer of 1 to 20;

$R^5$  is hydrogen or  $C_1$ - $C_4$  alkyl; and

R<sup>6</sup> is:



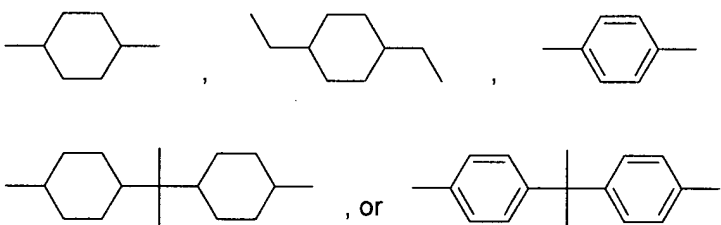
where:

s is an integer of 0 to 30;

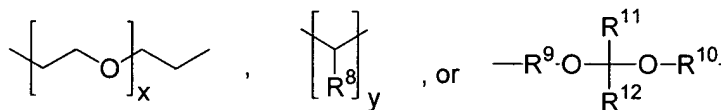
t is an integer of 2 to 200; and

R<sup>7</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sup>2</sup> is:



R<sup>3</sup> is:



where:

x is an integer of 0 to 30;

y is an integer of 2 to 200;

R<sup>8</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

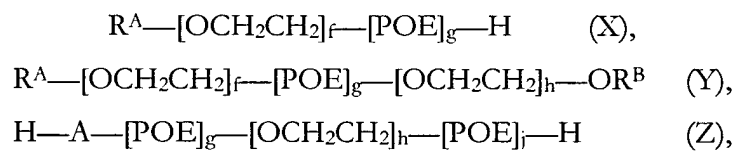
R<sup>9</sup> and R<sup>10</sup> are independently C<sub>1</sub>-C<sub>12</sub> alkylene;

R<sup>11</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl and R<sup>12</sup> is C<sub>1</sub>-C<sub>6</sub> alkyl; or R<sup>11</sup> and R<sup>12</sup> together are C<sub>3</sub>-C<sub>10</sub> alkylene; and

R<sup>4</sup> is the residue of a diol containing at least one amine functionality incorporated therein;

in which at least 0.1 mol% of the A units are R<sup>1</sup>, and at least 0.1 mol% of the A units are R<sup>4</sup>.

2. The pharmaceutical composition of Claim 1 where the fraction of the active agent is from 1% to 60% by weight of the composition.
3. The pharmaceutical composition of Claim 2 where the fraction of the active agent is from 5% to 30% by weight of the composition.
4. The pharmaceutical composition of Claim 1 where the active agent is selected from anti-infectives, antiseptics, steroids, therapeutic polypeptides, anti-inflammatory agents, cancer chemotherapeutic agents, narcotics, local anesthetics, antiangiogenic agents, vaccines, antigens, DNA, and antisense oligonucleotides.
5. The pharmaceutical composition of Claim 1 where the active agent is a cancer chemotherapeutic agent.
6. The pharmaceutical composition of Claim 1 where the active agent is an anti-inflammatory agent.
7. A method of treating a disease state treatable by controlled release local administration of an active agent, comprising locally administering a therapeutically effective amount of the active agent in the form of a pharmaceutical composition of Claim 1.
8. A composition for the sustained release of an active agent, comprising the active agent dispersed in a matrix comprising a block copolymer of formula X, formula Y, or formula Z:



where:

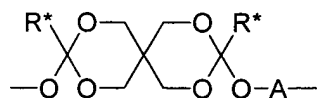
$R^A$  is  $C_1$ - $C_4$  alkyl;

$R^B$  is  $C_1$ - $C_4$  alkyl;

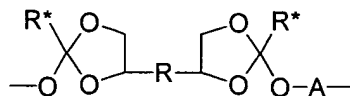
$f$  and  $h$  are independently an integer from 2 to 1000;

$g$  and  $j$  are independently an integer from 2 to 200;

POE is a poly(ortho ester) unit of formula IA or formula IIA:



(IA)



(IIA)

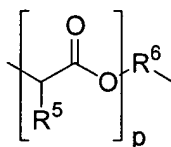
where

R\* is a C<sub>1</sub>-C<sub>4</sub> alkyl;

R is a bond, -(CH<sub>2</sub>)<sub>a</sub>-, or -(CH<sub>2</sub>)<sub>b</sub>-O-(CH<sub>2</sub>)<sub>c</sub>-; where a is an integer of 1 to 10, and b and c are independently integers of 1 to 5; and

each A is independently selected from R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, and R<sup>4</sup>, where

R<sup>1</sup> is:

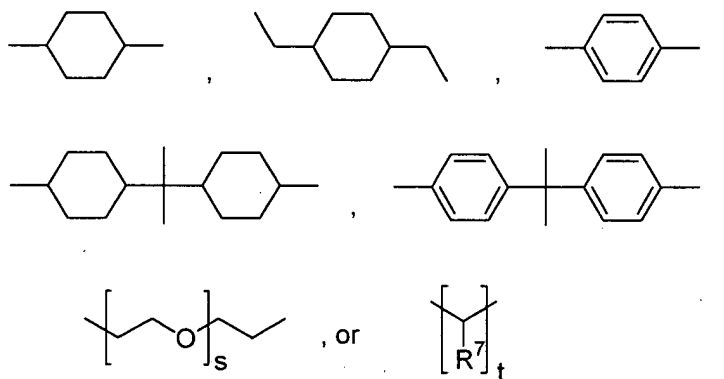


where:

p is an integer of 1 to 20;

R<sup>5</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl; and

R<sup>6</sup> is:



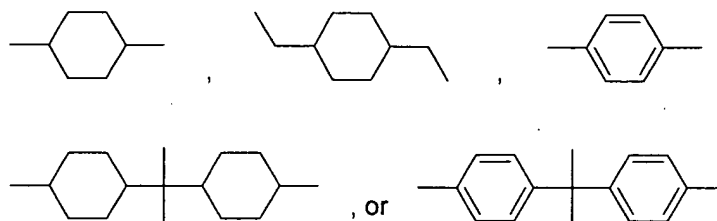
where:

s is an integer of 0 to 30;

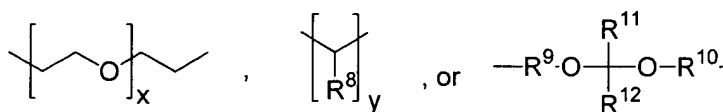
t is an integer of 2 to 200; and

R<sup>7</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sup>2</sup> is:



$R^3$  is:



where:

$x$  is an integer of 0 to 30;

$y$  is an integer of 2 to 200;

$R^8$  is hydrogen or  $C_1$ - $C_4$  alkyl;

$R^9$  and  $R^{10}$  are independently  $C_1$ - $C_{12}$  alkylene;

$R^{11}$  is hydrogen or  $C_1$ - $C_6$  alkyl and  $R^{12}$  is  $C_1$ - $C_6$  alkyl; or  $R^{11}$  and  $R^{12}$  together are  $C_3$ - $C_{10}$  alkylene; and

$R^4$  is the residue of a diol containing at least one amine functionality incorporated therein;

in which at least 0.1 mol% of the A units are  $R^1$ , and at least 0.1 mol% of the A units are  $R^4$ .

9. The pharmaceutical composition of Claim 8 where the fraction of the active agent is from 1% to 60% by weight of the composition.

10. The pharmaceutical composition of Claim 9 where the fraction of the active agent is from 5% to 30% by weight of the composition.

11. The pharmaceutical composition of Claim 8 where the active agent is selected from anti-infectives, antiseptics, steroids, therapeutic polypeptides, anti-inflammatory agents, cancer chemotherapeutic agents, narcotics, local anesthetics, antiangiogenic agents, vaccines, antigens, DNA, and antisense oligonucleotides.

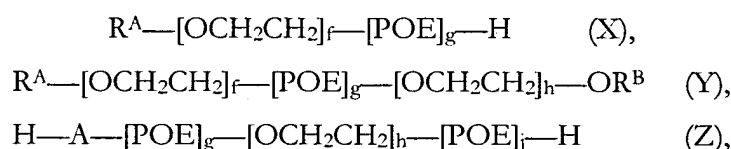
12. The pharmaceutical composition of Claim 8 where the active agent is a local anesthetic.

13. The pharmaceutical composition of Claim 12 further comprising a glucocorticosteroid.

14. A method of treating a disease state treatable by controlled release local administration of an active agent, comprising locally administering a therapeutically effective amount of the active agent in the form of a pharmaceutical composition of Claim 8.

15. A method of preventing or relieving local pain at a site in a mammal, comprising administering to the site a therapeutically effective amount of a local anesthetic in the form of a pharmaceutically acceptable composition of Claim 12.

16. A device for orthopedic restoration or tissue regeneration comprising a block copolymer of formula X, formula Y, or formula Z:



where:

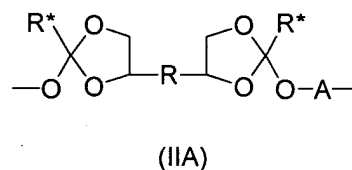
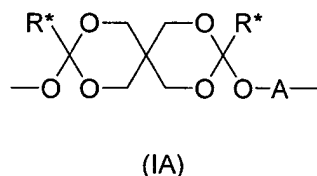
$R^A$  is  $C_1$ - $C_4$  alkyl;

$R^B$  is  $C_1$ - $C_4$  alkyl;

$f$  and  $h$  are independently an integer from 2 to 1000;

$g$  and  $j$  are independently an integer from 2 to 200;

POE is a poly(ortho ester) unit of formula IA or formula IIA:



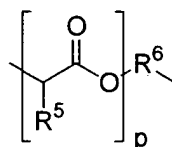
where

$R^*$  is a  $C_1$ - $C_4$  alkyl;

$R$  is a bond,  $-(CH_2)_b-$ , or  $-(CH_2)_b-O-(CH_2)_c-$ ; where  $a$  is an integer of 1 to 10, and  $b$  and  $c$  are independently integers of 1 to 5; and

each  $A$  is independently selected from  $R^1$ ,  $R^2$ ,  $R^3$ , and  $R^4$ , where

$R^1$  is:

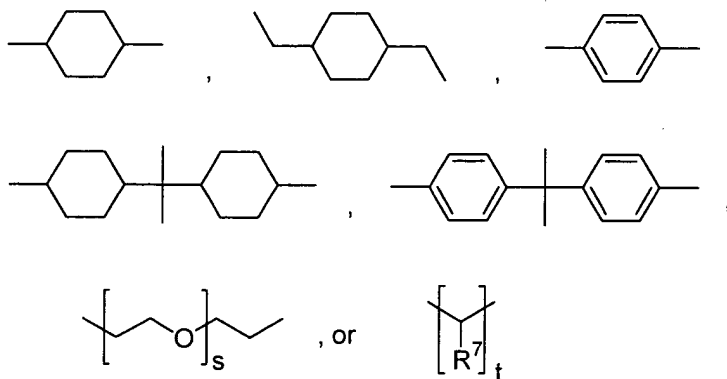


where:

p is an integer of 1 to 20;

R<sup>5</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl; and

R<sup>6</sup> is:



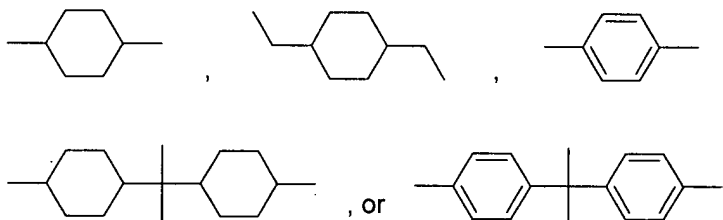
where:

s is an integer of 0 to 30;

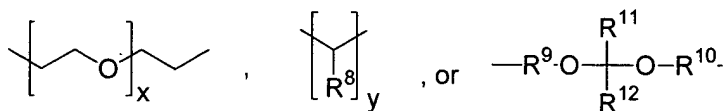
t is an integer of 2 to 200; and

R<sup>7</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sup>2</sup> is:



R<sup>3</sup> is:



where:

x is an integer of 0 to 30;

y is an integer of 2 to 200;

R<sup>8</sup> is hydrogen or C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sup>9</sup> and R<sup>10</sup> are independently C<sub>1</sub>-C<sub>12</sub> alkylene;

R<sup>11</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl and R<sup>12</sup> is C<sub>1</sub>-C<sub>6</sub> alkyl; or R<sup>11</sup> and R<sup>12</sup> together are C<sub>3</sub>-C<sub>10</sub> alkylene; and

R<sup>4</sup> is the residue of a diol containing at least one amine functionality incorporated therein;  
in which at least 0.1 mol% of the A units are R<sup>1</sup>, and at least 0.1 mol% of the A units are R<sup>4</sup>.